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Discovery of a new skink of the genus *Scincella* Mittleman, 1950 (Squamata, Scincidae) from Guizhou Province, China

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Abstract

Scincella potanini was long considered the only species of the genus *Scincella* recorded in Guizhou Province, China. This study describes a new species of the genus *Scincella*, *Scincella qianica* **sp. nov.**, from Guizhou, China, based on an integrative taxonomic approach combining molecular and morphological data. The new species can be distinguished from all known congeners by the following combination of morphological characters: (1) medium body size in adults (SVL length up to 44.8 mm); (2) tail relatively long, TAL/SVL ratio 1.76–2.14 in original tail specimens; (3) toes not in contact with fingers when limbs adpressed; (4) infralabials six to seven; (5) supraciliaries six, rarely seven; (6) tympanum deeply sunk, without lobules; (7) primary temporal one; (8) three pairs of nuchals; (9) midbody scale row counts 26; (10) paravertebral scale row counts 61–66; (11) ventral scale row counts 46–53; (12) 9–10 enlarged lamellae beneath finger IV, and 13–14 beneath toe IV; (13) dark dorsolateral stripes with relatively straight upper edge, extending from the tip of snout to the end of tail, with 1/2+4+1/2 rows of dorsal scales in the middle; (14) ventral surface covered with discontinuous black longitudinal stripes. In the phylogenetic analyses, the new species was nested within a highly supported lineage, forming a sister taxon with *S. alia*, and exhibits at least 15.8% genetic divergence from other congeners based on the mitochondrial *CO1* gene.

Key Words

Molecular phylogeny, morphological characters, *Scincella qianica* sp. nov., taxonomy

Introduction

The smooth skinks of the genus *Scincella* Mittleman, 1950 are small-bodied skinks ranging from North and Central America to South, East, and Southeast Asia (Ouboter 1986; Zhao et al. 1999). It is one of the most diverse groups of the family Scincidae Gray, 1825, comprising more than 45 recognized species (Bragin et al. 2025; Jia et al. 2025; Pham et al. 2025; Uetz et al. 2025). In the 40 years since the last revision of the entire genus (Ouboter 1986), advances in molecular analyses have improved our understanding of species diversity and phylogenetic relationships in the genus (Honda et al. 2003; Darevsky et al. 2004; Neang et al. 2018; Nguyen et al. 2019; Nguyen et al. 2020; Nguyen et al. 2024;

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Jia et al. 2023, 2024, 2025). And in the past five years alone, nine new species of *Scincella* have been discovered and described, accounting for nearly one-fifth of the currently recognized taxa, indicating that species diversity within the genus remains significantly underestimated (Uetz et al. 2025).

In China, 14 species of *Scincella* are known at present: *S. barbouri* (Stejneger, 1925), *S. chengduensis* Jia, Ren, Jiang, & Li, 2025, *S. doriae* (Boulenger, 1887), *S. formosensis* (Van Denburgh, 1912), *S. huanrenensis* Zhao & Huang, 1982, *S. liangshanensis* Jia, Gao, Wu, Ren, Jiang & Wu, 2024, *S. modesta* (Günther, 1864), *S. monticola* (Schmidt, 1925), *S. potanini* (Günther, 1896), *S. przewalskii* (Bedriaga, 1912), *S. reevesii* (Gray, 1839), *S. schmidti* (Barbour, 1927), *S. tsinlingensis* (Hu & Zhao, 1966) and *S. wangyuezhaoi* Jia, Gao, Huang, Ren, Jiang & Li, 2023 (Zhao et al. 1999; Jia et al. 2025). Among these, nine species are recorded in southwestern China, which represents the highest regional diversity of *Scincella* in the country (Jia et al. 2024, 2025).

Situated at the intersection of the Changjiang River and Pearl River basins and forming a key part of southwestern China, Guizhou Province features complex terrain and diverse environmental conditions that create a mosaic of habitats fostering high levels of endemism and speciation (Li et al. 2020). However, to date, only *Scincella potanini* has been recorded from Guizhou Province, and no other species of *Scincella* has been formally reported from this region (Yuan et al. 2009). During our recent field surveys between 2021 and 2025, five skink specimens were collected from Baiyun District and Weining Yi, Hui and Miao Autonomous County in Guizhou Province, China (Fig. 1). They could be assigned to the genus *Scincella* based on having a small and elongated body; short limbs; relatively long tail; supranasal absent; lower eyelid with transparent disc; pentadactyl hindlimbs; lamellae under the basal digits in one row; and the lower secondary temporal overlapping the upper one (Greer 1974; Greer and Shea 2003; Nguyen et al. 2010a). Morphological comparisons and molecular phylogenetic analyses revealed that the Guizhou specimens are distinct from all previously known *Scincella* species. Thus, we described them as a new species herein.

Material and methods

Sampling

Specimens were collected in Guizhou Province, China. Sex was determined by dissection, based on the presence of testes or ovaries. After being photographed, all newly collected specimens were humanely euthanized using a lethal injection of 0.7% tricaine methanesulfonate (MS222) solution, then fixed in 10% buffered formalin for one day and transferred to 75% ethanol for long-term preservation. Fresh liver tissue was extracted and immediately preserved in 95% ethanol and stored at –20 °C. The specimens were deposited at Qinghai University (QHU) and Chengdu Institute of Biology (CIB), Chinese Academy of Sciences. All sampling procedures involving live skinks complied with the Wildlife Protection Law of China and were approved by the Institutional Ethics Committee of Qinghai University (protocol number SL2023028).

Morphological examination

Morphological descriptions followed the methodology outlined in Ouboter (1986) and Jia et al. (2024), with certain abbreviations revised according to the standards set by Darko et al. (2022). Three morphometric characters were measured with a Deli digital calipers (No. 90150B) to the nearest 0.1 mm: **SVL** = snout–vent length, measured from the tip of the snout to the posterior edge of vent; **TAL** = tail length, measured from the posterior margin of vent to the tip of tail; **AGD** = axilla-groin distance, defined as the distance between the posterior edge of the forelimb insertion and the anterior edge of the hindlimb insertion, with both limbs inserted perpendicularly to the body wall. All other measurements were taken using Mitutoyo digital calipers (CD-15AX) to the nearest 0.01 mm under Leica stereomicroscope (EZ4): **HL** = head length, measured from the tip of the snout to the caudal extremity of the retroarticular process of the mandible (a prominent point externally visible at the posterior end of the lower jaw); **HW** = head width, the widest portion between the left and right articulations of jaw; **HH** (abbreviated as HD in Jia et al. 2024) = head height, the deepest portion from ventral to dorsal surface of head; **ED** = eye diameter, the length of the palpebral cleft; **EN** (abbreviated as END in Jia et al. 2024) = eye-narial distance, measured from the anterior corner of the eye to the posterior margin of the naris; **PDD** = palpebral disc diameter, the maximum horizontal diameter of palpebral disc; **ESD** (abbreviated as SNL in Jia et al. 2024) = snout length, measured from the tip of the snout to the anterior corner of eye; **EL** (abbreviated as TD in Jia et al. 2024) = ear opening diameter, maximum diameter of tympanum; **FLL** = forelimb length, measured from anterior junction of forelimb and body wall to tip of the finger IV; **F4L** = finger IV length, measured from the junction between the skin of third and fourth fingers to tip of finger IV; **HLL** = hind-limb length, measured from anterior junction of hindlimb and body wall to tip of toe IV; **T4L** = toe IV length, measured from the junction between the skin of third and fourth toes to tip of toe IV; and **Limbs adpressed** = whether the forelimbs and hindlimbs can make contact when the body is held straight and the limbs are adpressed. Calculated the ratio of the sum of forelimb and hindlimb lengths to the axilla–groin length. If the ratio > 1, the limbs are considered able to make contact; if the ratio < 1, they are considered unable to make contact.

The meristic data and their abbreviations are as follows: **SL** = supralabials; **IL** (abbreviated as IfL in Jia et al. 2024) = infralabials; **FrN** = frontonasals; **SCI** (abbreviated as SC in Jia et al. 2024) = superciliaries; **SO** = supraoculars; **PF** = prefrontals; **FrP** (abbreviated as FP in Jia et al. 2024) = frontoparietals; **P** = parietals; **TEMP** (abbreviated as TEM in Jia et al. 2024) = enlarged tem-

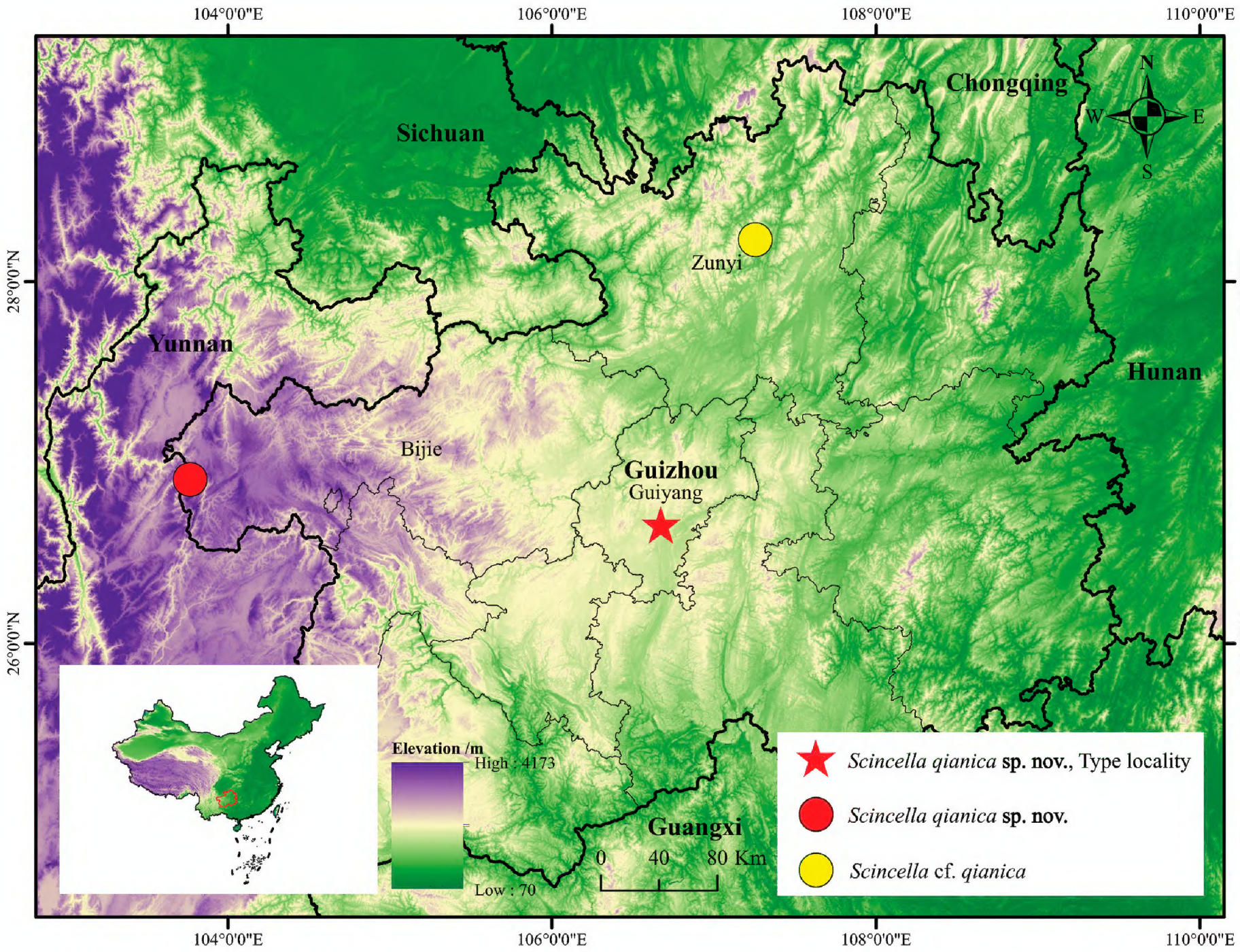

Figure 1. Distribution of *Scincella* species in Guizhou Province. The red star marks the type locality of *Scincella qianica* sp. nov. in Baiyung District, the red dot marks the other site in Weining Yi, Hui and Miao Autonomous County; and the yellow dot indicates the site of *S.* cf. *qianica* (identified as *S. potanini* in Yuan et al. 2009).

porals; **Lor** (abbreviated as L in Jia et al. 2024) = loreals; **NU** = nuchals, **chin-shields**; **GS** = gulars, number of scale rows counted from the first scale behind the chin shields to the midpoint of the line connecting the anterior edges of the forelimb insertions; **MBSR** = midbody scale rows, number of longitudinal scale rows measured around the midbody; **PVSR** = paravertebral scale rows, the number of scale rows counted between parietals and the just posterior margin of hindlimbs; **DBR** = dorsal scale rows between dorsolateral stripes, the number of midbody dorsal scale rows between dark dorsolateral stripes, including the half-scale on the scale where the upper border of the dark upper lateral zone lies; **SRB** = scale rows covered by dorsolateral stripes; **VS** (abbreviated as VSR in Jia et al. 2024) = ventral scale rows, the number of scale rows counted between gulars and precloacals; **F4S** = number of enlarged, subdigital lamellae beneath finger IV; and **T4S** = number of enlarged, subdigital lamellae beneath toe IV. In addition, we also recorded the upper margin of dorsolateral stripes wavy or relatively straight (**UMLLS**), and presence or absence of dark-colored markings on the ventral surface (**VDM** = ventral dark markings).

Morphological comparison between species of the genus *Scincella* were obtained from the specimens examined in this study and many key references: Gray (1838), Boulenger (1887), Günther (1896), van Denburgh (1912), Stejneger (1925), Barbour (1927), Schmidt (1927), Smith (1935), Taylor (1963), Zhao and Huang (1982), Darevsky and Nguyen (1983), Ouboter (1986), Wang and Zhao (1986), Inger et al. (1990), Darevsky and Orlov (1997), Zhao et al. (1999), Chen et al. (2001), Darevsky et al. (2004), Bourret (2009), Yuan et al. (2009), Nguyen et al. (2010a, b), Nguyen et al. (2011), Neang et al. (2018), Nguyen et al. (2019), Nguyen et al. (2020), Koizumi et al. (2022), Jia et al. (2023), Jia et al. (2024), Okabe et al. (2024), Pham et al. (2024), Bragin et al. (2025), Jia et al. (2025), Nguyen et al. (2025), and Pham et al. (2025).

Molecular phylogeny

Total genomic DNA was extracted from preserved liver tissue using the QIAamp DNA Mini Kit (QIAGEN, Changsheng Biotechnology Co. Ltd). Three mitochondrial gene fragments, 12S ribosomal RNA (*12S*), 16S ri-

bosomal RNA (*16S*), and cytochrome c oxidase subunit I (*CO1*), were amplified following the protocols described by Jia et al. (2023). The following primer pairs were used: L1091-F and H1478-R for *12S* (Kocher et al. 1989), 16SL-F and 16SL-R for *16S* (Linkem et al. 2011), and RepCOI-F and RepCOI-R for *CO1* (Nagy et al. 2012). The PCR products were sequenced by Shanghai Map Biotech Co., Ltd. Raw sequences were assembled using SeqMan in the DNASTAR software package (Burland, 2000). Newly generated sequences have been submitted to GenBank, accession numbers are listed in Table 1.

For phylogenetic analysis, we included 97 sequences from 52 individuals across 26 *Scincella* species, including the putative new species (Table 1). *Sphenomorphus cryptotis* Darevsky, Orlov & Cuc, 2004 was used as the outgroup (Jia et al. 2023). A concatenated dataset of the three gene fragments (*12S*/*16S*/*CO1*, 1585 bp in total) was aligned using MUSCLE (Edgar 2004) in MEGA X (Kumar et al. 2018). Uncorrected pairwise distances (*p*-distances) between closely related species were also calculated in MEGA X. Maximum likelihood (ML) analyses were conducted in IQ-TREE v1.6.12 (Nguyen et al. 2015). Nodes were regarded as well supported when ultrafast bootstrap values (UFB) ≥95% and SH-like approximate likelihood ratio test values (SH-aLRT) ≥80% (Stephane et al. 2010; Hoang et al. 2018). The phylogenetic tree was visualized using FigTree v.1.4.4 (Rambaut 2018).

Results

The lengths of the *12S*, *16S* and *CO1* fragments in the final alignment comprised 384 base pairs (bp), 542 bp, and 659 bp, respectively. In the ML analysis (Fig. 2), all *Scincella* specimens clustered into a monophyletic group. The monophyly of the specimens from Baiyun District and Weining Yi, Hui and Miao Autonomous County was strongly supported (SH 99 / UFB 100), and this lineage identified as the sister lineage to *S. alia* Bragin, Zenin, Nguyen & Poyarkov, 2025, though with weak nodal support (SH 67 / UFB 90).

Genetic distances based on the *CO1* gene between the newly-collected *Scincella* specimens and its congeners ranged from 15.8% (vs. *S. liangshanensis*) to 26.6% (vs. *S. reevesii*, Table 2). For comparison, interspecific distances among the other *Scincella* taxa included in this study ranged from 8.0% between *S. boettgeri* (Van Denburgh, 1912) and *S. dunan* to 27.9% between *S. melanosticta* (Boulenger, 1887) and *S. reevesii*, indicating that the Guizhou specimens are genetically well differentiated from their congeners. The *p*-distance between the two populations of the specimens from Guizhou Province was 7.2%, slightly lower than the smallest interspecific divergence observed within the genus. Despite the considerable genetic divergence, we failed to detect any consistent morphological or chromatic differences between the two populations. Since the Weining specimen is represented by only one individual, we currently regard them as a single species. However, further studies with additional specimens will be necessary to clarify their taxonomic status.

Only *S. potanini* had previously been recorded from Guizhou Province. However, the newly collected specimens exhibit a genetic divergence of 18.8–19.9% from *S. potanini*, supporting their recognition as a distinct lineage and suggesting that earlier records may have been misidentified.

Despite the within-group divergence, the Guizhou specimens as a whole are morphologically distinct from all other *Scincella* species. Combined with their unique phylogenetic placement, we here describe them as a new species.

Taxonomic account

Scincella qianica Xu, Weng, Poyarkov, Zhang, Deng & Peng, sp. nov.

https://zoobank.org/B9ED5D2C-06CB-46FE-B0B8-792154B043BF

Figs 3–7

Type material. ***Holotype*** • QHU R2025002, adult male, collected by the team of Lifang Peng on March 23, 2025 from Baiyun District, Guiyang City, Guizhou Province, China (26°39'28"N, 106°40'20"E, 1320 m a.s.l.).

Paratypes **(n = 3)** • QHU R2025001 and • CIB 119376, both adult males, collected by the team of Lifang Peng on March 8, 2025 from the same locality as the holotype • QHU R2025003, juvenile, with the same collecting information as the holotype.

Referred specimen. • CIB CB25GZ04, a fragmented dead specimen, collected by the team of Sikan Chen on August 13, 2021 from Niulan River Gorge, Weining Yi, Hui and Miao Autonomous County, Bijie City, Guizhou Province, China (26°54'41"N, 103°45'58"E, 1542 m a.s.l).

Etymology. The specific name "*qianica*" is a Latinized adjective in nominative singular (feminine gender), derived from Chinese "Qián" (黔), the traditional abbreviation for Guizhou Province, China, where the new species was discovered. For the common names, we suggested "Guizhou Ground Skink" in English and "Qián Huá Xī" (黔滑蜥) in Chinese.

Diagnosis. *Scincella qianica* sp. nov. can be diagnosed from other *Scincella* species by the following unique combination of characters: (1) medium body size in adults (SVL length up to 44.8 mm); (2) tail relatively long, TAL/SVL ratio 1.76–2.14 in specimens with intact tails; (3) toes not in contact with fingers when limbs adpressed, FLL+HLL/AGD ratio 0.80–0.91; (4) infralabials six to seven; (5) supraciliaries six, rarely seven; (6) tympanum deeply sunk, without lobules; (7) primary temporal single; (8) three pairs of nuchals; (9) midbody scale row counts 26; (10) paravertebral scale row counts 61–66; (11) ventral scale row counts 46–53; (12) 9–10 enlarged lamellae beneath finger IV, and 13–14 beneath toe IV; (13) the dark dorsolateral stripes with relatively

Table 1. GenBank accession numbers, localities, and voucher information for all specimens used in this study.

NO.	Species name	Locality	Voucher NO.	*12S*	*16S*	*CO1*	References
1	*Scincella qianica* sp. nov.	Baiyun District, Guizhou, China	QHU R2025001	PV527316	PV527321	PV527759	This study
2	*Scincella qianica* sp. nov.	Baiyun District, Guizhou, China	QHU R2025002	PV527317	PV527322	PV527760	This study
3	*Scincella qianica* sp. nov.	Baiyun District, Guizhou, China	QHU R2025003	PV527318	PV527323	PV527761	This study
4	*Scincella qianica* sp. nov.	Baiyun District, Guizhou, China	CIB 119376	PV527314	PV527319	PV527758	This study
5	*Scincella qianica* sp. nov.	Weining Yi and Hui and Miao Autonomous County, Guizhou, China	CIB CB25GZ04	PV527315	PV527320	PV591321	This study
6	*S. alia*	Tay Con Linh Mt., Ha Giang, Vietnam	VRTC NAP14081	–	–	PV085567	Bragin et al. (2025)
7	*S. alia*	Tay Con Linh Mt., Ha Giang, Vietnam	ZMMU Re-18153	PV088911	PV088913	PV085569	Bragin et al. (2025)
8	*S. assata*	Finca El Milagro, Santa Ana, El Salvador	KU 289795	JF497946	JF498074	–	Linkem et al. (2011)
9	*S. assata*	Canton El Volcan, San Miguel, El Salvador	KU 291286	–	JF498075	–	Linkem et al. (2011)
10	*S. badenensis*	Ba Den Mountain, Tay Ninh, Vietnam	ITBCZ 5966	–	–	MK990602	Nguyen et al. (2019)
11	*S. badenensis*	Ba Den Mountain, Tay Ninh, Vietnam	ITBCZ 5993	–	–	MK990603	Nguyen et al. (2019)
12	*S. baraensis*	Ba Ra Mountain, Binh Phuoc, Vietnam	ITBCZ 6534	–	–	MT742256	Nguyen et al. (2020)
13	*S. baraensis*	Ba Ra Mountain, Binh Phuoc, Vietnam	ITBCZ 6536	–	–	MT742258	Nguyen et al. (2020)
14	*S. boettgeri*	Yaeyama Group, Southern Ryukyus, Japan	KUZ R68001	–	–	LC630768	Koizumi et al. (2022)
15	*S. boettgeri*	Yaeyama Group, Southern Ryukyus, Japan	KUZ R68008	–	–	LC630770	Koizumi et al. (2022)
16	*S. chengduensis*	Dayi, Sichuan, China	CIB 107637	PQ466924	PQ466921	PQ467109	Jia et al. (2025)
17	*S. chengduensis*	Chongzhou, Sichuan, China	CIB 118786	PQ466923	PQ466920	PQ467108	Jia et al. (2025)
18	*S. cherriei*	Montes Azules Biosphere Reserve, Chiapas, Mexico	RCMX 219	–	MW265931	–	Castiglia et al. (2020)
19	*S. cherriei*	Montes Azules Biosphere Reserve, Chiapas, Mexico	RCMX 235	–	MW265932	–	Castiglia et al. (2020)
20	*S. doriae*	Bidoup-Nui Ba N.P., Lam Dong, Vietnam	ZMMU R-13268-00412	–	–	MH119616	Unpublished
21	*S. doriae*	Bidoup-Nui Ba N.P., Lam Dong, Vietnam	ZMMU R-13268-01062	–	–	MH119617	Unpublished
22	*S. dunan*	Yonagunijima Is., Southern Ryukyus, Japan	KUZ R65170	–	–	LC630778	Koizumi et al. (2022)
23	*S. dunan*	Yonagunijima Is., Southern Ryukyus, Japan	KUZ R67027	–	–	LC630779	Koizumi et al. (2022)
24	*S. fansipanensis*	Mt. Fansipan, Lao Cai, Vietnam	IEBR R.5185	–	–	LC846671	Okabe et al. (2024)
25	*S. fansipanensis*	Mt. Fansipan, Lao Cai, Vietnam	IEBR R.5187	–	–	LC846672	Okabe et al. (2024)
26	*S. formosensis*	Taiwan, China	KUZ R37515	–	–	LC630789	Koizumi et al. (2022)
27	*S. formosensis*	Taiwan, China	KUZ R37516	–	–	LC630790	Koizumi et al. (2022)
28	*S. gemmingeri*	–	–	AY308294	AY308445	–	–
29	*S. huanrenensis*	Pyeongchang-gun, Gangwon-do, Korea	G390SH	KU507306	KU507306	KU507306	Park et al. (2016)
30	*S. huanrenensis*	Pyeongchang-gun, Gangwon-do, Korea	–	NC030779	NC030779	NC030779	Park et al. (2016)
31	*S. lateralis*	Texas, USA	DCC 2842	HM852476	HM852503	–	Reeder and Reichert (2011)
32	*S. lateralis*	–	KU 289460	JF497948	JF498077	–	Linkem et al. (2011)
33	*S. liangshanensis*	Meigu, Sichuan, China	CIB 119513	PP826317	PP826315	PP824806	Jia et al. (2024)
34	*S. liangshanensis*	Meigu, Sichuan, China	CIB 119514	PP826318	PP826314	PP824804	Jia et al. (2024)
35	*S. melanosticta*	Kon Chu Rang N.R., Gia Lai, Vietnam	ZMMU NAP-05519	–	–	MH119621	Neang et al. (2018)
36	*S. melanosticta*	Kon Chu Rang N.R., Gia Lai, Vietnam	ZMMU NAP-06376	–	–	MH119622	Neang et al. (2018)

NO.	Species name	Locality	Voucher NO.	*12S*	*16S*	*CO1*	References
37	*S. modesta*	Ningbo, Zhejiang, China	CIB 121415	PP819198	PP819195	PP819217	Jia et al. (2024)
38	*S. modesta*	Ningbo, Zhejiang, China	WYF 11520	PP819197	–	PP819215	Jia et al. (2024)
39	*S. monticola*	Shangri-La, Yunnan, China	DL-YNJC2020824	OP955952	OP955962	–	Jia et al. (2023)
40	*S. nigrofasciata*	Keo Seima W.S., Mondulkiri, Cambodia	CBC02545	–	–	MH119613	Neang et al. (2018)
41	*S. nigrofasciata*	Dak Nong UNESCO Global Geopark, Vietnam	ITBCZ 11028	–	–	PQ634873	Nguyen et al. (2024)
42	*S. potanini*	Kangding, Sichuan, China	DL KD202109071	OP942203	OP935937	OP942210	Jia et al. (2023)
43	*S. potanini*	Kangding, Sichuan, China	DL KD202109072	OP942208	OP935987	OP942209	Jia et al. (2023)
44	*S. reevesii*	Zhaoqing, Guangdong, China	NB 2017030715	NC054206	NC054206	NC054206	Zhong et al. (2021)
45	*S. reevesii*	Zhaoqing, Guangdong, China	–	MN832615	MN832615	MN832615	Zhong et al. (2021)
46	*S. rufocaudata*	Ha Tinh, Vietnam	ZFMK 76238	–	HM773216	–	Nguyen et al. (2011)
47	*S. rufocaudata*	Ha Tinh, Vietnam	ZFMK 76239	–	HM773217	–	Nguyen et al. (2011)
48	*S. rupicola*	Thailand	KUZ 40458	AB057388	AB057403	–	Honda et al. (2003)
49	*S. vandenburghi*	Tsushima Island, Japan	KUZ R66394	–	–	LC507695	Koizumi et al. (2021)
50	*S. vandenburghi*	Yeongwol-gun, Korea	G389SV	KU646826	KU646826	KU646826	Park et al. (2016)
51	*S. wangyuezhaoi*	Wenchuan, Sichuan, China	CIB 87246	OP942191	OP941172	OQ402205	Jia et al. (2023)
52	*S. wangyuezhaoi*	Lixian, Sichuan, China	CIB 119510	OP942192	OP941174	–	Jia et al. (2023)
Out group							
53	*Sphenomorphus cryptotis*	Shangsi, Guangxi, China	CIB 119027	OP942206	OP942190	OP942215	Jia et al. (2023)

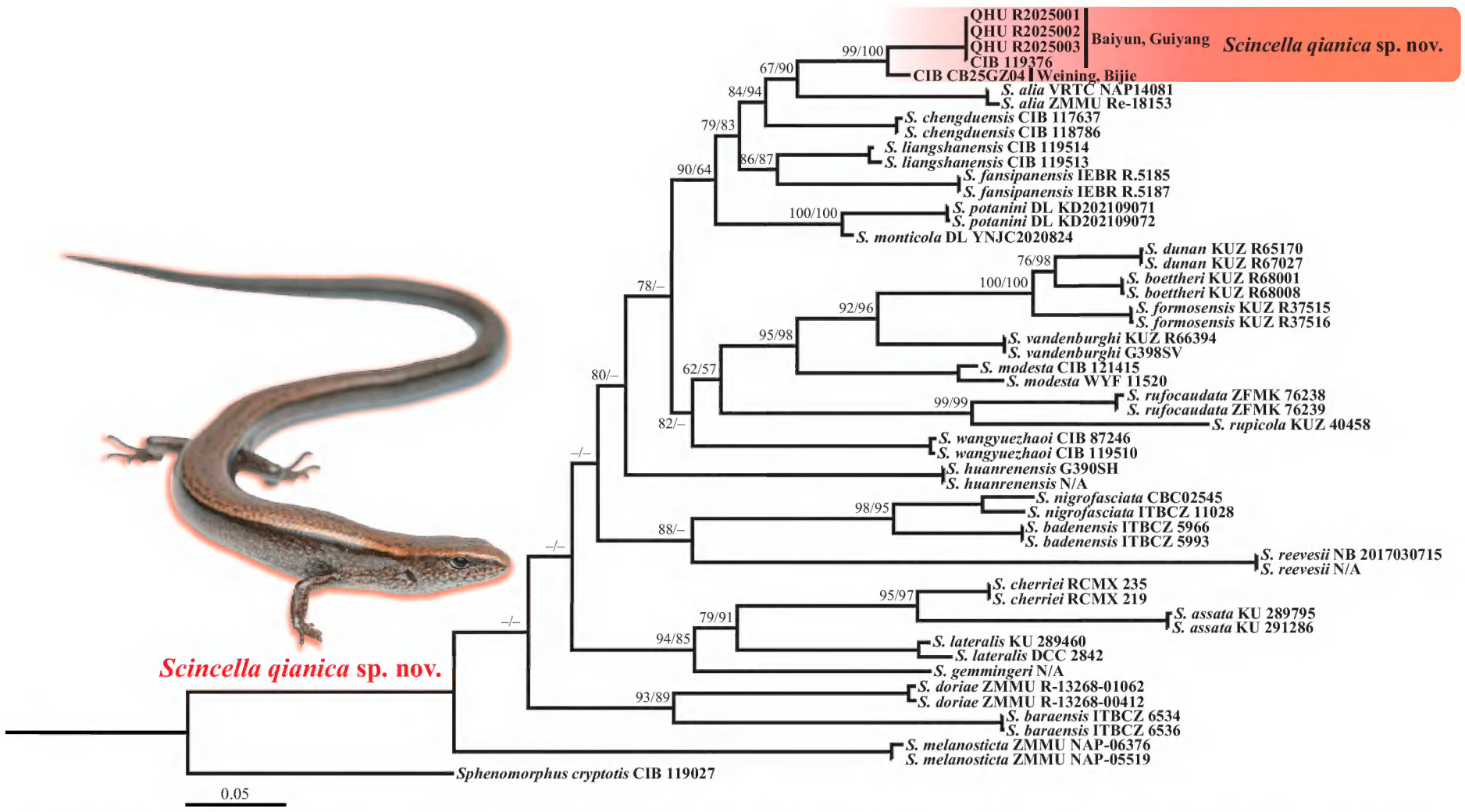

Figure 2. Phylogenetic topology of the genus *Scincella* inferred from three mitochondrial (*12S/16S/CO1*) fragments. The nodes supporting values on branches are presented with the SH-like approximate likelihood ratio test (SH) / Ultrafast Bootstrap Approximation (UFB); the ones lower than 50 are displayed as "–". Photo on thumbnails by Yuhao Xu.

straight upper edge, extends from the tip of snout to the end of tail, with 1/2+4+1/2 rows of dorsal scales in the middle; (14) ventral surface covered with discontinuous black longitudinal stripes.

Description of the holotype. An adult male specimen with original tail (Fig. 3A1, B1). Size medium, SVL 44.8 mm, TAL 82.9 mm, TAL/SVL ratio 1.85. Axilla-groin distance relatively long, AGD 25.2 mm (AGD/SVL 0.56). Head elongated, indistinct from the neck, HL 9.51 mm, HW 5.35 mm, HH 4.10 mm. Snout short, obtuse, round anteriorly, ESD 2.63 mm, EN 1.96 mm. Ear oval, tympanum recessed, EL 1.51 mm. Eye large, ED 2.03 mm;

Table 2. Uncorrected *p*-distance (%) among the *Scincella* species based on partial mitochondria *CO1* gene.

NO.	Species	1–4	5	6–7	8–9	10–11	12–13	14–15	16–17	18–19	20–21	22–23	24–25	26–27	28–29	30–31	32–33	34–35	36–37	38–39
1–4	*S. qianica* sp. nov. Baiyun, Guiyang	–																		
5	*S. qianica* sp. nov. Weining, Bijie	7.2	–																	
6–7	*S. alia*	18.1–18.3	18.8–19.1	0.8																
8–9	*S. badenensis*	21.5	19.9	21.2–21.9	–															
10–11	*S. baraensis*	24.1–24.3	22.1–22.3	24.6–25.8	21.9–22.1	0.2														
12–13	*S. boettgeri*	23.3	22.7	20.1–20.8	23.3	23.9–24.1	0.2													
14–15	*S. chengduensis*	18.2–18.6	16.2–16.6	16.3–17.0	22.0–22.4	25.4–26.1	20.8–21.2	0.3												
16–17	*S. doriae*	23.3	21.4–21.9	19.2–20.1	21.8–22.1	19.0–19.3	21.7–21.9	22.6–23.3	1.0											
18–19	*S. dunan*	24.2–24.4	23.1–23.3	22.3–23.2	23.5–23.7	26.2–26.6	8.0–8.3	21.0–21.7	23.4–23.7	0.2										
20–21	*S. fansipanensis*	18.6–18.8	18.2	17.5–18.3	19.5	22.0–22.5	20.2	17.9–18.5	21.1–21.3	22.1–22.4	–									
22–23	*S. formosensis*	23.6	23.8	21.7–21.9	24.3	23.3–23.7	9.5	21.3	22.9–23.0	10.0–10.4	22.8	0.2								
24–25	*S. huanrenensis*	23.0	20.7	22.9–23.8	20.8	21.3–21.6	22.1	19.9–20.4	23.0–23.3	22.1–22.3	19.7–19.9	21.1–21.3	–							
26–27	*S. liangshanensis*	16.0–16.5	15.8–16.1	18.7–19.1	21.1–21.2	21.1–21.9	20.1–21.3	17.5–18.5	19.5–20.3	23.1–24.2	13.9–14.2	23.1–23.2	19.5–19.9	1.2						
28–29	*S. melanosticta*	23.4–24.0	21.2–21.4	21.8–22.2	23.0–23.2	22.7	24.6–25.3	22.7–23.3	22.2–22.9	26.1–26.8	22.0–22.8	25.3–25.5	23.9–24.4	21.2–22.2	0.8					
30–31	*S. modesta*	22.0–24.2	20.8–22.9	21.8–22.0	23.2–23.5	22.7–23.2	17.5–18.0	20.4–22.5	18.7–20.8	17.4–19.9	18.4–18.8	19.2–19.8	21.5–22.9	19.5–20.4	24.0–24.4	5.5				
32–33	*S. nigrofasciata*	23.8–24.3	21.8–22.5	19.8–20.4	11.9	22.8–23.0	23.7–24.0	20.8–22.0	20.6–21.5	24.1–24.8	18.0–19.7	24.6–24.9	21.1–23.7	20.8–21.6	23.2–24.1	22.3–23.7	5.3			
34–35	*S. potanini*	19.6–19.9	18.8–19.0	19.7–21.1	21.7–21.9	22.0–22.7	18.5–19.0	18.8–19.5	19.5–20.2	21.8–22.3	16.5–16.7	22.4–22.7	20.7–21.2	15.7–16.4	22.3–23.5	19.8–20.7	19.6–20.6	0.3		
36–37	*S. reevesii*	26.6	26.4	27.7	24.8	24.5–24.7	24.3–24.5	26.0–26.5	27.2–27.5	24.7–24.9	25.7	25.1	26.0	24.5–25.2	27.8–27.9	25.1–26.5	25.6–25.8	23.5–24.0	–	
38–39	*S. vandenburghi*	23.0–23.2	21.9–22.2	20.6–21.9	25.4–25.6	24.2–24.5	15.2–15.4	18.4–19.0	19.7–20.5	16.1–16.5	20.1–20.5	16.1–16.3	23.0–23.2	19.8–20.5	27.1–27.4	17.4–18.0	22.4–23.7	20.1–20.6	26.1–26.4	0.2
40	*S. wangyuezhaoi*	18.6	16.7	21.2–22.3	21.4	25.2–25.4	24.7	20.3–20.8	22.8–23.0	23.7–23.9	18.2–18.6	23.9	19.2	19.3	24.3–24.6	17.4–20.9	20.4–20.6	19.1–19.5	26.9	19.7–19.9

Figure 3. Dorsal (**A**) and ventral (**B**) views of *Scincella qianica* sp. nov. in life. **A1, B1.** QHU R2025002, holotype, adult male; **A2, B2.** QHU R2025001, paratype, adult male; **A3, B3.** QHU R2025003, paratype, juvenile. Photos by Yuhao Xu.

lower eyelid with undivided transparent disc (window), PDD 0.79 mm. Limbs relatively short, toes not in contact with fingers when limbs adpressed, FLL 8.68 mm, HLL 12.13 mm, F4L 2.11 mm, T4L 3.88 mm, FLL/ SVL ratio 0.19, HLL/SVL ratio 0.27, FLL+HLL/AGD ratio 0.83.

Head scalation **(Fig. 4).** Rostral wider than high, visible dorsally, in contact with the 1st SL, nasals, and frontonasal; supranasals absent; FrN one, subtrapezoidal, width about twice the height., in contact with rostral, nasals, anterior loreals, prefrontals and frontal; PF two, not in contact with each other, separated medially by frontal; frontal slender, longer than wide, diamond-shaped, in contact with the 1st and 2nd supraoculars laterally; a pair of FrP, in contact with each other anteriorly, bordered by frontal, 2nd to 4th supraoculars, interparietal and parietals; interparietal small, diamond-shaped, width approximately equal to height; P large, in contact posteriorly, posterolateral border contacting the upper secondary temporals, and enlarged nuchals; enlarged nuchals in three pairs. Nostril oval, in the middle of the nasal; nasal entire, diamond-shaped, width approximately equal to height, in contact with the rostral, frontonasal, anterior loreal and the 1st supralabial; Lor 2, the anterior one subrhombic, the posterior one slightly larger and inverted subtrapezoidal-shaped; SCI 6/6, the anterior two largest; SO four, the 1st contacts the frontal, the 2nd largest and contacts both the frontal and frontoparietals, the 3rd and 4th contact the frontoparietals; lower eyelid bearing a undivided transparent window, surrounded small palpebral scales; TEMP 1+2, the anterior one subhexagonal, the upper secondary temporal is the largest, while the lower one is smaller and broadly contacts the upper; SL 7/7, 1st smallest, 5th below the window, 6th largest. Mental wider than long, round anteriorly, in contact with the 1st IL and postmental; postmental large and subpentagonal, contacting the mental, the first two infralabials on each side, and the first pair of chin shields; IL 6/6, 1st smallest, 5th largest; chin shields in three pairs, the first pair in contact medially, the second pair separated by one gular scale, and the third pair separated by three gulars; GS 20.

Body scalation **(Fig. 5).** Body scales smooth, MBSR 26; dorsal scales widened, larger than the lateral and ventral scales, PVSR 61, dorsal scales between dorsolateral stripes 1/2+4+1/2; ventral scales slightly enlarged medially, decreasing toward the flanks, VS 46 (GS+VS 66); enlarged median precloacals two, overlapped by the lateral precloacals, and the left median scale overlaps the right; tail base thick, the anterior third part nearly

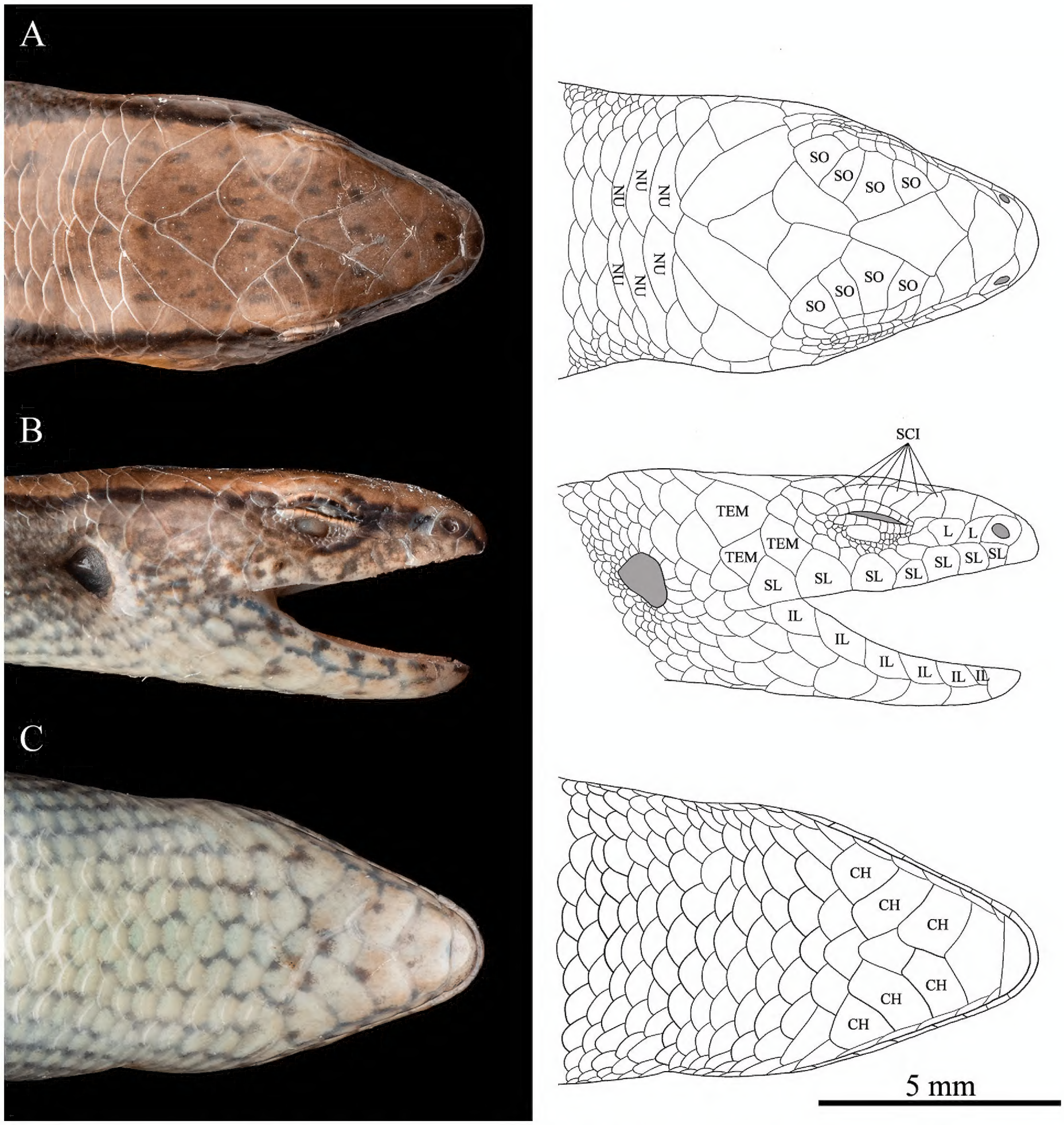

Figure 4. Head scalation of *Scincella qianica* sp. nov. (holotype QHU R2025002, adult male). **A.** Dorsal; **B.** Lateral; **C.** Ventral views. SO: supraoculars; NU: nuchals; SCI: superciliaries; L: loreals; SL: supralabials; IL: infralabials; TEM: temporals; CH: chin shields. Photos and drawings by Yuhao Xu. Scale bars: 5 mm.

uniform, gradually tapering from the middle toward the tip. The subcaudals at the base of the tail are nearly equal in size and arranged alternately along the midline. Beginning with the eighth subcaudal, the medial scales become vertically elongated and form a single midventral row. limbs pentadactyl; dorsal surface of the fourth finger and toe mostly covered with two rows of supradigital scales, with the terminal two scales arranged in a single row; F4S 9, T4S 13.

Coloration of the holotype in life **(Fig. 3A1, B1).** In life, dorsal surface of the head is copper-colored, scattered with small, irregular black-brown spots. The upper margin of the lateral head is dark brown, gradually fading to brown below, scattered with irregular black-brown spots. Ventral surface of the head is creamy white, with a few large black-brown blotches. The lateral edges of the infralabials, chin shields, and some gulars are black-brown, forming about ten discontinuous longitudinal stripes.

Dorsal surface of the body is copper-colored, with three longitudinal stripes composed of contiguous, irregular black blotches of varying sizes. The stripes on both sides are more distinct and continuous, extending from the neck to the end of the tail, and the stripe in the middle is a little disorderly and only reaches the base of the tail. The dark dorsolateral stripes with relatively straight upper edges extend from the tip of the snout, passes over

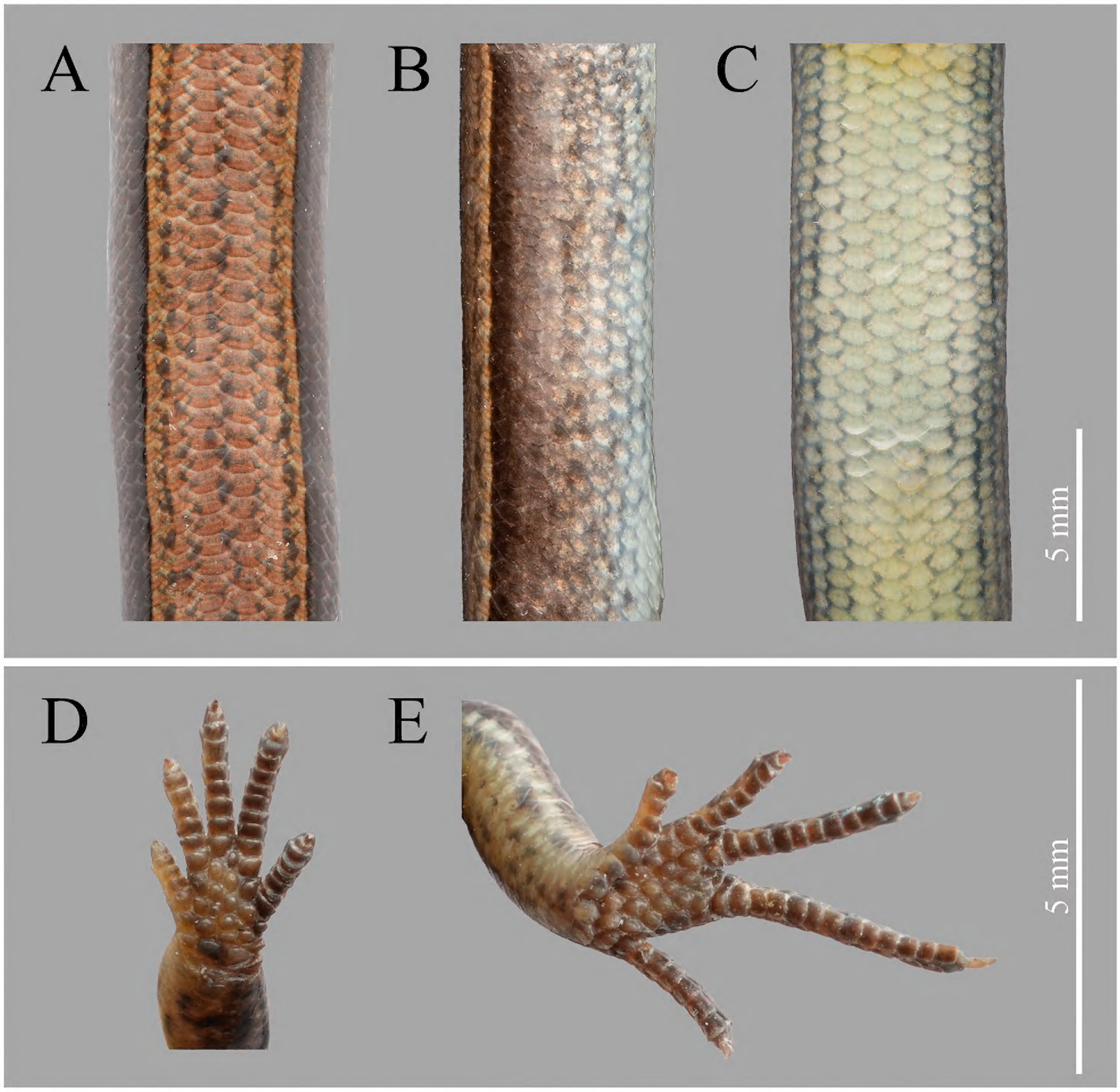

Figure 5. Dorsal (**A**), lateral (**B**), and ventral (**C**) views of the body; **D.** Ventral view of the hand; **E.** Ventral view of the foot of *Scincella qianica* sp. nov. (holotype QHU R2025002, adult male) after one month in preservation. Photos by Yuhao Xu. Scale bars: 5 mm.

superciliaries, and continues to the end of the tail, covering about 1–1.5 scale rows on the trunk.

The ground color of the lateral body is light creamy yellow, densely covered with extremely fine brown speckles, making the upper half of the flanks appear almost uniformly brown. The speckles gradually become sparser lower on the body and absent near the ventral surface.

Ventral pale yellow. Along both sides, the lateral edges of many ventral scales are black brown, forming discontinuous longitudinal stripes that roughly align with the stripes on the ventral head. Toward the midline, the stripes become fainter and more fragmented. Dorsal and ventral surfaces of limbs match the body, scattered with black-brown blotches. The anterior one-fifth of the ventral tail is pale yellow, gradually transitioning to light gray posteriorly, with scattered grayish-brown spots.

Coloration of the holotype in preservation **(Fig. 6).** After one month of preservation in ethanol, the coloration remains similar to that in life, except that the lateral body appears paler, the background color of the venter becomes cream white, and that of the ventral tail turns grayish white.

Variation. The paratypes exhibit coloration similar to the holotype, except that QHU R2025001 shows distinct and continuous black-brown longitudinal stripes along the entire ventral surface of the head and body, and the black-brown blotches on the dorsum of QHU R2025003 are more irregular and barely form longitudinal stripes (Figs 3B1, B2, C1, C2, 7). In scalation features, there is the following variation: (1) TAL/SVL ratio 1.76–2.14 (n = 4); (2) PVSR 61–66 (n = 4); (3) VS 46–53 (n = 4); (4) GS 21–24,

Figure 6. Dorsal (**A**) and ventral (**B**) views of the holotype (QHU R2025002) of *Scincella qianica* sp. nov. after one month in preservation. Photos by Yuhao Xu. Scale bars: 10 mm.

GS+VS 66–75 (n = 4); (5) SCI 6–7 (n = 4); (6) IL 6–7 (n = 4); (7) FrN divided into two scales in specimens QHU R2025001 and CIB 119376; (8) F4S 9–10, T4S 13–14 (n = 4). The measurements and scalation features of the *Scincella* specimens from Guizhou Province are listed in Table 3.

Distribution and habitat. *Scincella qianica* sp. nov. is currently known only from two localities in Guizhou Province, China: Baiyun District, Guiyang City, and Weining Yi, Hui and Miao Autonomous County, Bijie City. The two sites are located in central and western Guizhou, respectively, with more than 300 km apart, suggesting that the new species may have a broader distribution than currently recorded. All type specimens were found during the daytime under rocks or decaying wood in well-preserved coniferous and broad-leaved mixed forest, at elevations of around 1300 m (Fig. 8). The ambient temperature at the time was approximately 20 °C. In contrast, the specimen CIB CB25GZ04 was found in a river valley at elevations above 1500 m, where the surrounding habitat was mainly composed of shrubs and meadows. At the time of discovery, the right forelimb and part of the body of this specimen had already been gnawed by other animals.

Comparisons. Detailed information and morphological comparisons between *Scincella qianica* sp. nov. and six genetically closest species are provided in Table 4.

In both morphology and molecular data, *Scincella qianica* sp. nov. is closely related to *S. alia*, *S. chengduensis*, *S. fansipanensis* Okabe, Motokawa, Koizumi, Nguyen, Nguyen, & Bui, 2024, *S. liangshanensis*, *S. monticola* and *S. potanini*. However, the new species can be distinguished from *S. alia* by (1) a larger ratio of TAL/SVL (1.76–2.14 vs. 1.5–1.8); (2) T4S 13–14 (vs. T4S 11–13); (3) smaller ratio of FLL/SVL (0.18–0.21 vs. 0.20–0.27); (4) by having straight edges of dark dorsolateral lines (vs. wavy); and (5) by the presence of dark stripes on belly (vs. absence); from *S. chengduensis* by (1) MBSR 26 (vs. 23); (2) PVSR 61–66 (VS. 57–60); (3) VS 46–53, GS+VS 66–75 (vs. VS 42–44, GS+VS 64–65); (4) T4S 13–14 (vs. 10–12); (5) a greater ratio of TAL/SVL (1.76–2.14 vs. 1.59); (6) smaller ratio of FLL/SVL (0.19–0.21 vs. 0.21–0.26); and (7) venter surface with black-brown longitudinal stripes (vs. ventral surface densely covered with dark spots). It can be distinguished from *S. fansipanensis* by (1) MBSR 26 (vs. 22 or 24); (2) GS+VS 66–75 (vs. 58–64); (3) T4S 13–14 (vs. 10–12); (4) venter surface with black-brown longitudinal stripes (vs. dark-colored markings on the ventral surface absent). It can be distinguished from *S. liangshanensis* by (1) PVSR 61–66 (vs. 69–80); (2) shorter SVL (27.7–44.8 mm vs. 43.1–61.9 mm); (3) tail comparatively longer, TAL/SVL ratio 1.76–2.14 (vs. 0.96–1.71); (4) the dorsolateral stripes covered about 1–1.5 scale rows (vs. 1.5–2.5); and (5) venter surface with black-brown longitudinal stripes (vs. dark-colored markings on the ventral surface absent). It can be distinguished from *S. monticola* by (1) PVSR 61–66 (VS. 69–73); (2) MBSR 26 (vs. 23–25); (3) T4S 13–14 (vs. 10–12); (4) tail comparatively longer, TAL/SVL ratio 1.76–2.14 (vs. 1.61); and (5) venter surface with black-brown longitudinal stripes (vs. dark-colored markings on the ventral surface absent). It can be distinguished from *S. potanini* by (1) tail comparatively longer, TAL/SVL ratio 1.76–2.14 (vs. 1.02–1.12); (2) greater ratio of EL/PDD (1.65–1.92 vs. 0.79–1.25); (3) the dorsolateral stripes covered about 1–1.5 scale rows (vs. 1.5–3); and (4) venter surface with black-brown longitudinal stripes (vs. dark-colored markings on the ventral surface absent).

For the other three congeners in China that have 1/2+4+1/2 dorsal scale rows between the dorsolateral stripes, *Scincella qianica* sp. nov. can be distinguished from *S. tsinlingensis* by fewer PVSR (61–66 vs.70–90), fewer GS+VS (66–75 vs. 83–98), greater ratio of EL/PDD (1.65–1.92 vs. 0.80–1.14) and comparatively longer tail (TAL/SVL ratio 1.76–2.14 vs. 1.24–1.42); from *S. huanrenensis* by fewer PVSR (61–66 vs.66–79), greater ratio of EL/PDD (1.65–1.92 vs. 0.61–1.14), and comparatively longer tail (TAL/SVL ratio 1.76–2.14 vs. 1.19–1.47); and

Table 3. Main morphological characteristics of *Scincella* specimens from Guizhou Province examined in this study and Yuan et al. (2009).

Species	*Scincella qianica* sp. nov.					Range	*S.* cf. *qianica*
Source	this study					/	Yuan et al. (2009)
Voucher Number	QHU R2025002	QHU R2025001	QHU R2025003	CIB 119376	CIB CB25GZ04	/	KKS 20071006
	Holotype	Paratype	Paratype	Paratype	/	/	–
Sex	Male	Male	Juvenile	Male	/	/	Male
Original tail	Yes	No	Yes	No	Yes	/	No
SVL	44.8	43.3	27.7	43.7	41.1	27.7–44.8	37.65
TAL	82.9	/	49.0	/	87.9	49.0–82.9	/
TAL/SVL	1.85	/	1.76	/	2.14	1.76–2.14	/
AGD	25.2	24.5	15.6	25.6	/	15.6–25.6	/
AGD/SVL	0.56	0.57	0.56	0.59	/	0.56–0.59	/
HL	9.51	9.32	6.87	10.02	8.55	6.87–10.02	/
HW	5.35	4.77	3.72	5.12	6.08	4.77–6.08	/
HH	4.10	3.67	2.69	3.99	4.10	2.69–4.10	/
ED	2.03	1.65	1.83	1.93	1.92	1.65–2.03	/
ESD	2.63	2.76	1.86	2.90	3.19	1.86–3.19	/
EN	1.96	1.95	1.38	2.10	1.91	1.38–2.10	/
PDD	0.79	0.84	/	0.75	/	0.75–0.84	/
EL	1.51	1.39	0.85	1.44	/	0.85–1.51	/
EL/PDD	1.91	1.65	/	1.92	/	**1.65–1.92**	**1.09**
FLL	8.68	8.00	5.71	8.99	/	5.71–8.99	8.25
FLL/SVL	0.19	0.18	0.21	0.21	/	0.18–0.21	0.22
HLL	12.13	11.72	8.41	11.82	11.93	8.41–12.13	12.01
HLL/SVL	0.27	0.27	0.30	0.27	0.29	**0.27–0.30**	**0.32**
FLL+HLL/AGD	0.83	0.80	0.91	0.81	/	0.80–0.91	/
PF	2, separated	2, separated	2, separated	2, separated	2, separated	2, separated	2, separated
FrP	in contact	in contact	in contact	in contact	in contact	in contact	in contact
P	in contact	in contact	in contact	in contact	in contact	in contact	in contact
FrN	1	2	1	2	1	1–2	1
SO	4	4	4	4	4	4	4
SCI	6/6	6/6	6/6	6/7	6/6	6–7	6/6
Lor	2/2	2/2	2/2	2/2	2/2	2	/
TEMP	1+2	1+2	1+2	1+2	1+2	1+2	/
SL	7/7	7/7	7/7	7/7	7/7	7	7/7
IL	6/6	6/6	6/6	6/6	7/7	6–7	6/6
Chin shields (pair)	3	3	3	3	3	3	3
NU	3/3	3/3	3/3	3/3	3/3	3	4/5
MBSR	26	26	26	26	26	26	27
PVSR	61	63	66	66	/	**61–66**	**55**
DBR	1/2+4+1/2	1/2+4+1/2	1/2+4+1/2	1/2+4+1/2	1/2+4+1/2	1/2+4+1/2	1/2+4+1/2
GS	20	22	21	24	/	20–24	/
VS	46	53	46	48	/	46–53	42
GS+VS	66	75	67	72	/	66–75	/
F4S	9	9	10	10	/	9–10	/
T4S	14	13	13	14	14	13–14	13
SRB	1–1.5	1–1.5	1–1.5	1–1.5	1–1.5	**1–1.5**	**2–3**
UMLLS	straight	straight	straight	Straight	straight	/	straight
VDM	**stripes**	**stripes**	**stripes**	**Stripes**	**stripes**	/	**spots**
Limbs adpressed	No	No	No	No	No	No	No

from *S. schmidti* by having PVSR 61–66 (vs. 68–91), T4S 13–14 (vs. 11–12), and the upper margin of dorsolateral stripes relatively straight (vs. wavy).

Compared to the Chinese congeners with six or eight dorsal scale rows between the dorsolateral stripes, *Scincella qianica* sp. nov. can be distinguished from *S. barbouri* by fewer T4S (13–14 vs. 15–17) and the upper margin of dorsolateral stripes relatively straight (vs. wavy); from *S. doriae* by fewer MBSR (26 vs. 30–32), fewer T4S (13–14 vs. 15–18), the upper margin of dorsolateral stripes relatively straight (vs. wavy), and toes not in contact with fingers when limbs adpressed (vs. overlapping);

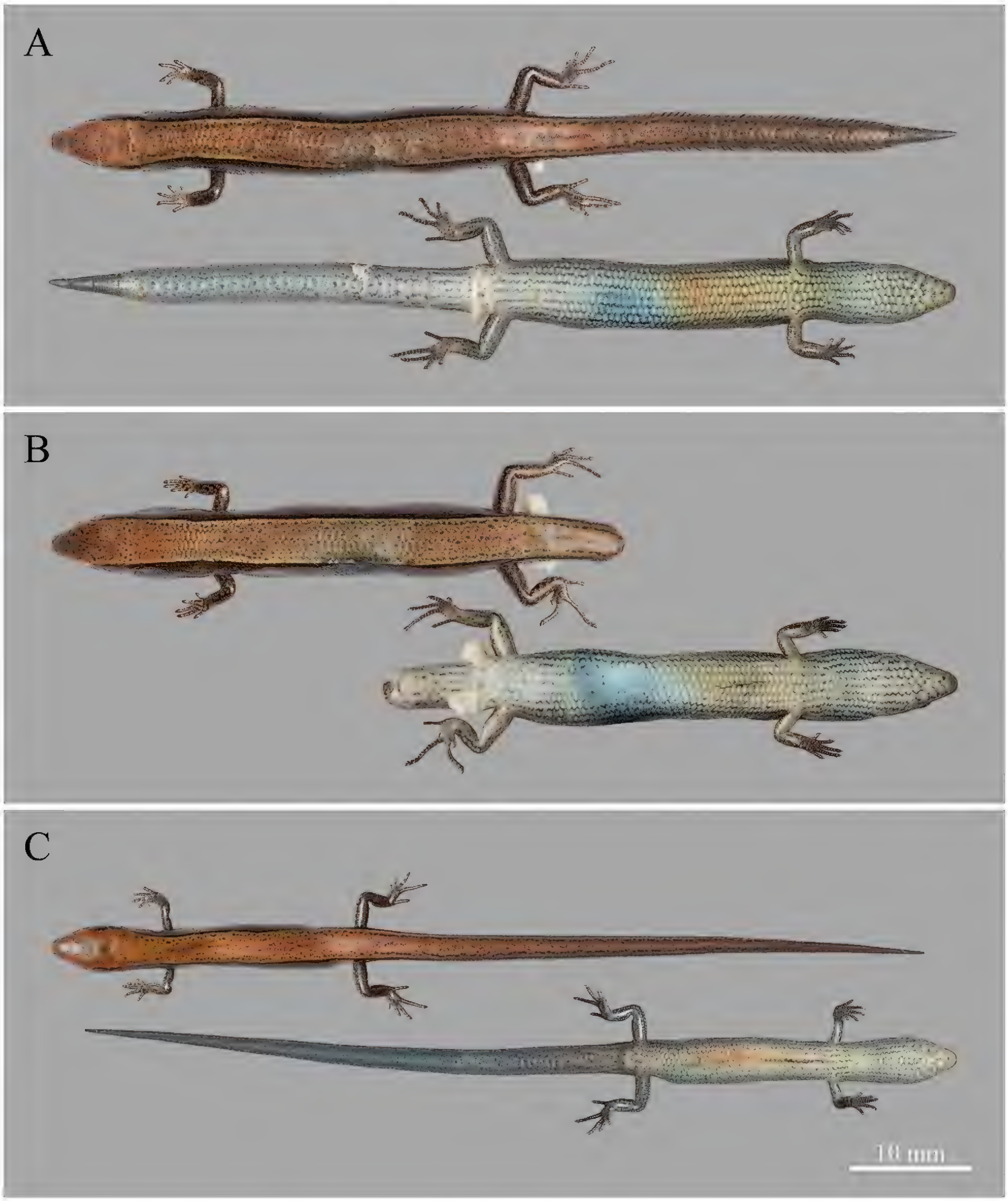

Figure 7. Dorsal and ventral views of the paratypes of *Scincella qianica* sp. nov. after one month in preservation. **A.** QHU R2025001, adult male; **B.** CIB 119376, adult male; **C.** QHU R2025003, juvenile. Photos by Yuhao Xu. Scale bars: 10 mm.

from *S. formosensis* by fewer T4S (13–14 vs. 14–18) and the upper margin of dorsolateral stripes relatively straight (vs. wavy); from *S. modesta* by comparatively longer tail, (TAL/SVL ratio 1.76–2.14 vs. 1.2–1.4), more PVSR (61–66 vs. 51–62) and upper margin of lateral longitudinal striation relatively straight (vs. wavy); from *S. przewalskii* by more supraoculars (4 vs. 3) and fewer T4S (13–14 vs. 17); from *S. reevesii* by fewer T4S (13–14 vs. 15–18) and the upper margin of dorsolateral stripes relatively straight straight (vs. wavy), and from *S. wangyuezhaoi* by fewer MBSR (26 vs. 27–30).

In addition, *Scincella qianica* sp. nov. can be easily distinguished from other Asian congeners as follows: from *S. apraefrontalis* Nguyen, Nguyen, Böhme & Ziegler, 2010, *S. auranticaudata* Nguyen, Nguyen, Le, Nguyen, Phan, Vo, Murphy & Che, 2025, *S. badenensis* Nguyen,

Figure 8. Macrohabitat (**A**) and microhabitat (**B**) of *Scincella qianica* sp. nov. in Baiyun District, Guiyang City, Guizhou Province, China.

Nguyen, Nguyen & Murphy, 2019, *S. baraensis* Nguyen, Nguyen, Nguyen & Murphy, 2020, *S. capitanea* Ouboter, 1986, *S. darevskii* Nguyen, Ananjeva, Orlov, Rybaltovsky & Böhme, 2010, *S. devorator* (Darevsky, Orlov & Cuc, 2004), *S. honbaensis* Nguyen, Nguyen, Le, Nguyen, Phan, Vo, Murphy & Che, 2025, *S. melanosticta*, *S. nigrofasciata* Neang, Chan & Poyarkov, 2018, *S. ochracea* (Bourret, 1937), *S. ouboteri* Pham, Pham, Le, Ngoc, Ziegler & Nguyen, 2024, *S. rara* (Darevsky and Orlov 1997), *S. rufocaudata* (Darevsky & Nguyen Van Sang, 1983), *S. rupicola* (Smith, 1916), *S. truongi* Pham, Ziegler, Pham, Hoang, Ngo & Le, 2025, and *S. vandenburghi* (Schmidt, 1927) by having 26 MBSR (vs. 18 in *S. apraefrontalis*, 34–36 in *S. auranticaudata*, 32–36 in *S. badenensis*, 30 in *S. baraensis*, 30–32 in *S. capitanea*, 28 in *S. darevskii*, 28–30 in *S. devorator*, 28 in *S. honbaensis*, 30–32 in *S. melanosticta*, 32–33 in *S. nigrofasciata*, 30–32 in *S. ochracea*, 30–32 in *S. ouboteri*, 24 in *S. rara*, 30–34 in *S. rufocaudata*, 33–36 in *S. rupicola*, 28 in *S. truongi*, and 28–30 in *S. vandenburghi*); from *S. boettgeri* by fewer T4S (13–14 vs. 15–16); from *S. dunan* Koizumi, Ota & Hikida, 2022 by fewer VS (46–53 vs. 55–65), and the upper margin of dorsolateral stripes relatively straight (vs. wavy); from *S. punctatolineata* Boulenger, 1893 by nuchals present (vs. absent); and from *S. victoriana* (Shreve, 1940) by more PVSR (61–66 vs. 50–54), more GS+VS (66–75 vs. 53–56), and scales smooth (vs. keeled).

Discussion

Yuan et al. (2009) first reported the presence of *Scincella* species in Guizhou Province, and identifying the specimen (voucher number KKS 20071006) from Suiyang County, Zunyi City as *S. potanini*. This remains the only published record of the genus in Guizhou Province to date. However, we found that the specimen differs notably from the true *S. potanini* in several morphological characters: (1) fewer PVSR (55 vs. 62–80); (2) fewer VS (42 vs. 45–64); (3) NU

Figure 9. Live specimen of "*S. potanini*" (KKS 20071006) from Suiyang County, Guizhou Province. The photo obtained and adapted from Yuan et al. (2009).

4/5 (vs. 3) and (4) venter surface with black spots and longitudinal stripes (vs. dark-colored markings on the ventral surface absent). In addition, we also compared the morphological data and available photographs of the Suiyang specimen provided by Yuan et al. (2009) with *Scincella qianica* sp. nov. (Fig. 9 and Table 3). Although the Suiyang specimen resembles the new species in body coloration, it differs in several morphological characters, including having (1) fewer PVSR (55 vs. 61–66); (2) fewer VS (42 vs. 46–53); and (3) ventral surface with longitudinal stripes (vs. spots) (Table 3). Based on these findings, we recommend removing the record of *S. potanini* from Guizhou Province and re-identifying the specimen KKS 20071006 as *Scincella* cf. *qianica*. Further studies will require the collection of additional specimens, integration of both morphological and molecular data, to clarify the systematic position of this specimen within the genus *Scincella*.

Rapid urbanization, infrastructure development, and associated pollution and environmental degradation have long led to the perception that cities are unsuitable for wildlife (Li et al. 2022; Jia et al. 2025). As a result, cryptic biodiversity in urban environments has often been overlooked. The discovery of *Scincella qianica* sp. nov. in a forest park within Baiyun District, Guiyang City, challenges this assumption. Despite being surrounded by urban infrastructure, this area supports a population of a previously undescribed skink species, highlighting that some small vertebrates can persist in human-modified landscapes. This finding underscores the importance of urban ecological refugia.

Guiyang City, the capital of Guizhou Province and a major city in southwestern China, is the country's first National Forest City. The relatively intact natural landscapes in Guiyang provide a strong basis for biodiversity conservation. *Scincella qianica* sp. nov. is the first reptile species discovered and described from Guiyang City. The discovery of the new species demonstrates the potential of urban environments to support native species and suggests that the city's biodiversity may be far greater than previously reported. Future studies should focus on comprehensive biodiversity assessments in cities to support the protection and management of remaining natural habitats in rapidly developing regions.

Table 4. Comparisons of main morphological characters between *Scincella qianica* sp. nov. and six genetically closest species.

Species	*Scincella qianica* sp. nov.	*S. alia*	*S. chengduensis*	*S. fansipanensis*	*S. liangshanensis*	*S. monticola*	*S. potanini*
Source	this study	Bragin et al. (2025)	Jia et al. (2025)	Okabe et al. (2024)	Jia et al. (2024)	Jia et al. (2023)	Jia et al. (2023)
SVL	**27.7–44.8**	38.2–48.2	28.4–43.2	**43.5–59.0**	**43.1–61.9**	36.3–53.0	26.6–57.9
TAL	49.0–82.9	63.2–84.8	59.9	/	54.4–83.8	/	/
TAL/SVL	**1.76–2.14**	**1.5–1.8**	**1.59**	/	**0.96–1.71**	**1.61**	**1.02–1.12**
AGD	15.6–25.6	20.6–29.4	/	26.4–35.4	/	/	/
AGD/SVL	0.56–0.59	0.53–0.63	0.55–0.61	/	0.56–0.66	0.56–0.65	0.52–0.72
FLL/SVL	**0.18–0.21**	**0.20–0.27**	**0.21–0.26**	/	0.14–0.22	0.13–0.19	0.11–0.25
HLL/SVL	**0.27–0.30**	0.25–0.34	0.23–0.32	/	0.22–0.33	**0.20–0.22**	0.17–0.31
EL/PDD	**1.65–1.92**	1.63–2.18	**1.05–1.58**	/	**1.25–2.38**	**0.62–1.11**	**0.79–1.25**
PF	separated	in contact or separated	in contact or separated	separated	in contact or separated	in contact	in contact or separated
FrP	in contact	in contact	in contact	in contact	in contact	in contact	in contact
P	in contact	in contact	in contact	in contact	in contact or separated	in contact	in contact
SO	4	4	4	4	4	4	4
SCI	6–7	6	6–7	5–6	6–7	6–7	6–7
Lor	2	2	2	2	2	2	2
TEMP	1+2	1+2+2	1+2–2	1+2	1+2–2+3	1+2–2+2	1+2–2+2
SL	7	7	7	6–7	7	7	7–8
IL	6–7	6	7	6	7	7	7
NU	3	3–4	3–4	2–6	2–5	3–4	3
MBSR	**26**	26–28	**23**	**22–24**	23–27	**23–25**	24–27
PVSR	**61–66**	56–63	**57–60**	60–68	69–80	62–80	69–73
DBR	1/2+4+1/2	1/2+4+1/2	1/2+4+1/2	1/2+4+1/2	1/2+4+1/2	1/2+4+1/2	1/2+4+1/2
GS	20–24	22–25	21–22	/	22–29	22–24	23–25
VS	**46–53**	44–52	**42–44**	/	43–57	45–52	45–64
GS+VS	**66–75**	66–76	**64–65**	**58–64**	68–82	67–77	69–89
F4S	**9–10**	7–10	**8–9**	**7–9**	8–11	8–10	7–10
T4S	**13–14**	**11–13**	**10–12**	**10–12**	10–15	**10–12**	**10–13**
SRB	**1–1.5**	1	**1–2.5**	/	**1.5–2.5**	**1.5–2**	**1.5–3**
UMLLS	**straight**	**wavy**	straight	**straight**	straight	straight	straight
VDM	**stripes**	**absent**	**spots**	**absent**	**absent**	**absent**	**absent**
Limbs adpressed	No	No	No	No	No	No	No

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